



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

CH

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/696,139 10/25/00 SANDERSON

R 09850-005005

┌

QM02/1016

└

EXAMINER

GARY A. WALPERT
FISH & RICHARDSON P.C.
225 FRANKLIN STREET
BOSTON MA 02110-2804

KAMEN, N

ART UNIT

PAPER NUMBER

3747

DATE MAILED:

10/16/01

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Applicati n No.

09/696,139

Applicant(s)

SANDERSON ET AL.

Examiner

Noah Kamen

Art Unit

3747

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-82 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 45-47, 49, 50, 54-62, and 66-82 is/are rejected.
- 7) ☒ Claim(s) 48, 52, 53 and 63-65 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 67.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 45-47, 49, 50, 54-62, 66-68, 72, 73, and 77-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitaguchi (5,007,385) in view of Lind (UK 220,594).

Kitaguchi shows in figure 5 a transition arm 3 supported on a stationary support via universal joint 4. While figure 5 shows only a single ended piston, figure 2 shows a double ended piston. The claimed joint and guide rod are not shown. Lind shows the recited joint absent the sliding members. It would have been obvious to one of ordinary skill in the art to substitute the joint of Lind for any joint in Kitaguchi for efficiently transferring forces. The modification of replacing a piston with a guide rod is well within the abilities for one of ordinary skill in the art. The sliding members read on low friction surface treatments such as nitriding. In regard to claim 81, the pump reads on an oil pump. In regard to claim 82, the compressor reads on a supercharger which is a well known expedient for increasing power output.

Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitaguchi in view of Lind as applied to claim 45 above, and further in view of Whatley (1,577,010). To modify Kitaguchi to have drive arms able to rotate about their axis for lower friction would have been obvious to one of ordinary skill in the art in view of Whatley.

Claims 72-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitaguchi in view of Almen (RE15,442).

Art Unit: 3747

Kitaguchi shows in figure 5 a transition arm 3 supported on a stationary support via universal joint 4. While figure 5 shows only a single ended piston, figure 2 shows a double-ended piston. The claimed joint is not shown. Almen shows the recited joint. It would have been obvious to one of ordinary skill in the art to substitute the joint of Almen for any in Kitaguchi for efficiently transferring forces.

Response to Arguments

Applicant's arguments filed 9/27/01 have been fully considered but they are not persuasive. The applicants argue that there is no suggestion in the art to substitute the joint of Lind or Almen for that of Kitaguchi to improve efficiency, in other words hindsight. Secondly, Kitaguchi employs a rocking motion for transforming linear and rotary motions versus a wobble motion in the secondary references. Thirdly, the relationship between degrees of freedom and relative motions is not described in the references. There is no suggestion in the secondary references to employ a joint of a wobble plate mechanism to the mechanism of Kitaguchi. Forth, the applicants argue that Kitaguchi does not show a universal joint in figure 5. Fifth, Kitaguchi shows in figure 4 an arrangement in which only two dimensional motion occurs, and thus only two degrees of freedom are provided at the joint between the piston and shaft, hence there is not reason to apply the secondary references.

The examiner contends that to substitute one joint for another is well within the abilities of one of ordinary skill in the art. There need not be an explicit reason to do so. The fact of Kitaguchi using rocking motion does not preclude the application of the secondary references which use wobbling. Note, wobble plates, as a term in the art refers to a rotating plate which none of the references have, see US pat. 6,053,091. All the applied references use a rocking motion and therefore they must possess a piston joint of multi-degrees of freedom. The ball joint

Art Unit: 3747

4 of Kitaguchi in figure 5 is deemed to be a universal joint. Arguments directed to figure 4 of Kitaguchi are moot because that embodiment was not relied on.

Allowable Subject Matter

Claims 48, 52, 53, and 63-65 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

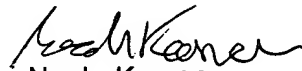
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Noah Kamen whose telephone number is 703 308 1945. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on 308 1946. The fax phone numbers for the

Art Unit: 3747

organization where this application or proceeding is assigned are 703 746 4547 for regular communications and 308 7766 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308 0861.



Noah Kamen
Primary Examiner
Art Unit 3747

nk
October 11, 2001

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a)

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.